



CASE 3037-4167 ATTY TCR  
FILE DATE October 16, 1999  
STATUTORY DATE March 16, 2000  
BY GR

UNITED STATES DEPARTMENT OF COMMERCE  
Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231

APPLICATION NUMBER	FILING/RECEIPT DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO./TITLE
09/352,404	07/14/99	CUPD	R CUPD-20-2

0262/0816

CHRISTOHER A HUGHES  
MORGAN AND FINNEGAN  
345 PARK AVENUE  
NEW YORK NY 10154

NOT ASSIGNED

2731

DATE MAILED:

08/16/99

**NOTICE TO FILE MISSING PARTS OF APPLICATION**  
**Filing Date Granted**

An Application Number and Filing Date have been assigned to this application. The items indicated below, however, are missing. Applicant is given TWO MONTHS FROM THE DATE OF THIS NOTICE within which to file all required items and pay any fees required below to avoid abandonment. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a). If any of items 1 or 3 through 5 are indicated as missing, the SURCHARGE set forth in 37 CFR 1.16(e) of ☐ \$65.00 for a small entity in compliance with 37 CFR 1.27, or ☐ \$130.00 for a non-small entity, must also be timely submitted in reply to this NOTICE to avoid abandonment.

If all required items on this form are filed within the period set above, the total amount owed by applicant as a  
☐ small entity (statement filed) ☐ non-small entity is \$ 130.

- ☐ 1. The statutory basic filing fee is:  
☐ missing.  
☐ insufficient.  
Applicant must submit \$\_\_\_\_\_ to complete the basic filing fee and/or file a small entity statement claiming such status (37 CFR 1.27).
- ☐ 2. The following additional claims fees are due:  
\$\_\_\_\_\_ for \_\_\_\_\_ total claims over 20.  
\$\_\_\_\_\_ for \_\_\_\_\_ independent claims over 3.  
\$\_\_\_\_\_ for multiple dependent claim surcharge.  
Applicant must either submit the additional claim fees or cancel additional claims for which fees are due.
- ☒ 3. The oath or declaration:  
☒ is missing or unsigned.  
☐ does not cover the newly submitted items.  
An oath or declaration in compliance with 37 CFR 1.63, including residence information and identifying the application by the above Application Number and Filing Date is required.
- ☐ 4. The signature(s) to the oath or declaration is/are by a person other than inventor or person qualified under 37 CFR 1.42, 1.43 or 1.47.  
A properly signed oath or declaration in compliance with 37 CFR 1.63, identifying the application by the above Application Number and Filing Date, is required.
- ☐ 5. The signature of the following joint inventor(s) is missing from the oath or declaration:  
  
An oath or declaration in compliance with 37 CFR 1.63 listing the names of all inventors and signed by the omitted inventor(s), identifying this application by the above Application Number and Filing Date, is required.
- ☐ 6. A \$50.00 processing fee is required since your check was returned without payment (37 CFR 1.21(m)).
- ☐ 7. Your filing receipt was mailed in error because your check was returned without payment.
- ☐ 8. The application was filed in a language other than English.  
Applicant must file a verified English translation of the application, the \$130.00 set forth in 37 CFR 1.17(k), unless previously submitted, and a statement that the translation is accurate (37 CFR 1.52(d)).
- ☐ 9. OTHER:

Direct the reply and any questions about this notice to "Attention: Box Missing Parts."

**A copy of this notice MUST be returned with the reply.**

S. J. Bennett  
Customer Service Center  
Initial Patent Examination Division (703) 308-1202

FORM PTO-1533 (REV. 9/98)

U.S. GPO: 1998-446-824

PART 1 - ATTORNEY/APPLICANT COPY

08/31/1999 SAROYA 00000125 122325 09352404

01 FC:105 130.00 CH



*#* SECTOR  
#13

PATENT  
Docket No. Cupo 20-2 (3037-4167)

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant(s) : Robert L. Cupo et al.

Serial No. : 09/352,404

Group Art Unit: 2731

Filed : July 14, 1999

Examiner: Unknown

For : AN IMPROVED IN-BAND-ON-CHANNEL (IBOC) SYSTEM & METHODS OF  
OPERATION USING ORTHOGONAL FREQUENCY DIVISION MULTIPLEXING (OFDM)  
WITH TIMING & FREQUENCY OFFSET CORRECTION

**RESPONSE TO NOTICE TO FILE MISSING PARTS OF APPLICATION**

Assistant Commissioner for Patents  
Washington, D.C. 20231

**ATTENTION: BOX MISSING PARTS**

Sir:

In response to the Notice to File Missing Parts of Application mailed August 16, 1999, applicant believes this notice is in error since an executed Declaration and Power of Attorney and Assignment were filed in the above referenced patent application at the time of filing. A copy of our postcard is enclosed as well. A copy of the Notice to File Missing Parts is included as required.

Since I believe this Notice is in error, I believe there should be no charge necessary to our Deposit Account.

However, the Commissioner is hereby authorized to debit or credit to Deposit Account 12-2325 Cupo 20-2 the appropriate amount--Missing Parts charge a total amount of \$130.00 if the fee is required.

**A DUPLICATE COPY OF THIS SHEET IS ATTACHED.**

Respectfully submitted,

MORGAN & FINNEGAN, L.L.P.

Dated: August 30, 1999

By: Joseph C. Redmond, Jr.  
Joseph C. Redmond, Jr.  
Registration No. 18,753

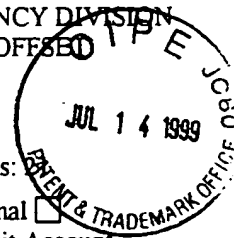
JCR:mmf  
Attachments

MORGAN & FINNEGAN, L.L.P.  
345 Park Avenue  
New York, NY 10154  
(202) 857-7887 or (202) 857-7929 telecopier



The Patent office date stamp heron acknowledges receipt of the below-identified documents:

Atty: J Redmond	Date: 7/14/99	3/6 mos. ltr Y <input checked="" type="checkbox"/>
Atty Docket No.: 3037-4167	Priority Date:	Pri. Ap. No.
Client Ref: CUPO 20-2	U.S. Patent Application <input checked="" type="checkbox"/>	Client: Lucent
Title: AN IMPROVED OM-BAND-ON-CHANNEL (IBOC) SYSTEM AND METHODS OF OPERATION USING ORTHOGONAL FREQUENCY DIVISION MULTIPLEXING (OFDM) WITH TIMING AND FREQUENCY OFFSET CORRECTION		
Applicant(s): Robert Louis Cupo and Muhammad R. Karim		
Specification: 16	Abstract: <input checked="" type="checkbox"/>	Claims: <input checked="" type="checkbox"/>
Drawings: 4	Formal <input checked="" type="checkbox"/>	Informal <input type="checkbox"/>
Executed Dec. & POA <input checked="" type="checkbox"/>	Assignment with cover sheet <input checked="" type="checkbox"/>	Deposit Account Authorization
Priority Claim <input type="checkbox"/>	Priority Doc. <input type="checkbox"/>	IDS <input type="checkbox"/> - Refs





The Patent office date stamp heron acknowledges receipt of the below-identified documents:

Atty: J Redmond	Date: 7/14/99	3/6 mos. ltr Y <input checked="" type="checkbox"/>
Atty Docket No.: 3037-4167	Priority Date:	Pri. Ap. No.
Client Ref: CUPO 20-2	U.S. Patent Application <input checked="" type="checkbox"/>	Client: Lucent
Title: AN IMPROVED OM-BAND-ON-CHANNEL (IBOC) SYSTEM AND METHODS OF OPERATION USING ORTHOGONAL FREQUENCY DIVISION MULTIPLEXING (OFDM) WITH TIMING AND FREQUENCY OFFSET CORRECTION		
Applicant(s): Robert Louis Cupo and Muhammad R. Karim		
Specification: 16	Abstract: <input checked="" type="checkbox"/>	Claims: 21
Drawings: 4	Formal <input checked="" type="checkbox"/>	Informal <input type="checkbox"/>
Executed Dec. & POA <input checked="" type="checkbox"/>	Assignment with cover sheet <input checked="" type="checkbox"/>	Deposit Account Authorization
Priority Claim <input type="checkbox"/>	Priority Doc. <input type="checkbox"/>	IDS <input type="checkbox"/> - Refs

jc504 U.S. PTO  
09/352404  
07/14/99

## ASSIGNMENT AND AGREEMENT

For value received, we, Robert Louis Cupo of Eatontown in the County of Monmouth and State of New Jersey, and Muhammad R. Karim of Wayside in the County of Monmouth and State of New Jersey, hereby sell, assign and transfer to Lucent Technologies Inc., a corporation of the State of Delaware, having an office at 600 Mountain Avenue, Murray Hill, New Jersey 07974-0636, U.S.A., and its successors, assigns and legal representatives, the entire right, title and interest, for the United States of America, in and to certain inventions related to **"AN IMPROVED IN-BAND-ON-CHANNEL (IBOC) SYSTEM AND METHODS OF OPERATION USING ORTHOGONAL FREQUENCY DIVISION MULTIPLEXING (OFDM) WITH TIMING AND FREQUENCY OFFSET CORRECTION"** described in an application for Letters Patent of the United States, executed by us of even date herewith, and all the rights and privileges in said application and under any and all Letters Patent that may be granted in the United States for said inventions; and we also concurrently hereby sell, assign and transfer to Lucent Technologies Inc. the entire right, title and interest in and to said inventions for all countries foreign to the United States, including all rights of priority arising from the application aforesaid, and all the rights and privileges under any and all forms of protection, including Letters Patent, that may be granted in said countries foreign to the United States for said inventions.

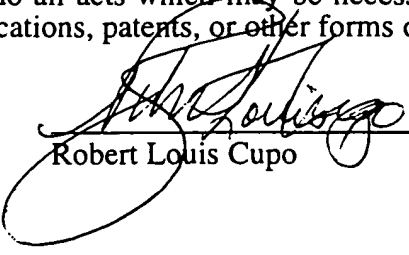
We authorize Lucent Technologies Inc. to make application for such protection in its own name and maintain such protection in any and all countries foreign to the United States, and to invoke and claim for any application for patent or other form of protection for said inventions, without further authorization from us, any and all benefits, including the right of priority provided by any and all treaties, conventions, or agreements.

We hereby consent that a copy of this assignment shall be deemed a full legal and formal equivalent of any document which may be required in any country in proof of the right of Lucent Technologies Inc. to apply for patent or other form of protection for said inventions and to claim the aforesaid benefit of the right of priority.

We request that any and all patents for said inventions be issued to Lucent Technologies Inc. in the United States and in all countries foreign to the United States, or to such nominees as Lucent Technologies Inc. may designate.

R.L. Cupo 20-2

We agree that, when requested, we shall, without charge to Lucent Technologies Inc. but at its expense, sign all papers, and do all acts which may be necessary, desirable or convenient in connection with said applications, patents, or other forms of protection.

  
Robert Louis Cupo

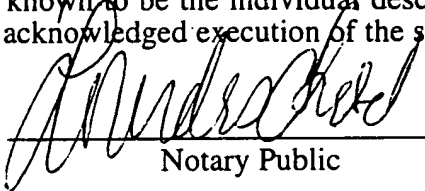
Date: 7/9/99

United States of America )

State of New Jersey ) ss.:

County of Monmouth )

On this 9th day of July, 19 99, before me personally came Robert Louis Cupo, to me known to be the individual described in and who executed the foregoing instrument, and acknowledged execution of the same.

  
Notary Public

**LOURDES CHESAL**  
**Notary Public State of New Jersey**  
**My Commission Expires 4/24/2001**

M. R. Karim

Muhammad R. Karim

Date: 7/9/99

United States of America )

State of New Jersey ) ss.:

County of Monmouth )

On this 9th day of July, 19 99, before me personally came Mark Y. McKinnon, to me known to be the individual described in and who executed the foregoing instrument, and acknowledged execution of the same.

Loures Chesal  
Notary Public

**LOURDES CHESAL**  
Notary Public State of New Jersey  
My Commission Expires 4/24/2001

PATENT

## IN THE UNITED STATES PATENT &amp; TRADEMARK OFFICE

Applicant: Robert L. Cupo et al. Group 2731  
Serial No.: 09/352,404 Examiner: Unassigned  
Filed: July 14, 1999  
Title: IN-BAND-ON-CHANNEL (IBOC) SYSTEM & METHODS OF OPERATION  
USING ORTHOGONAL FREQUENCY DIVISION MULTIPLEXING (OFDM)  
WITH TIMING AND FREQUENCY OFFSET CORRECTION

## REQUEST FOR REFUND &amp; CORRECTED FILING RECEIPT

Assistant Commissioner for Patents  
Washington, DC 20231

ATTN: Applications Branch -- Monica Young

Sir:

On August 16, 1999, a Notice to File Missing Parts was issued in error. It states that an executed Declaration and Oath was not with our original filing. Our response of August 30, 1999, stated the Notice to File Missing Parts was in error and provided proof of such. Therefore, the \$130 petition fee should not have been charged to Lucent Technologies, Inc. Deposit Account 12-2325. Please refund the \$130 petition fee and issue a corrected filing receipt.

In addition, please correct the typo in the title to read -- DIVISION -- as indicated on the attached copy.

Respectfully submitted,

MORGAN &amp; FINNEGAN, LLP

Date: October 4, 1999

By Joseph C. Redmond, Jr.  
Registration No. 18,753  
(202) 857-7887 or Fax (202) 857-7929

Correspondence Address:

MORGAN & FINNEGAN, LLP  
345 Park Avenue  
New York, NY 10154

RECEIVED  
NOV - 8 1999  
TC 2700 MAIL ROOM



PTO-123X  
(Rev. 6-88)FILING RECEIPT  
CORRECTED

UNITED STATES DEPARTMENT OF COMMERCE  
Patent and Trademark Office  
ASSISTANT SECRETARY AND COMMISSIONER  
OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231

APPLICATION NUMBER	FILING DATE	GRP ART UNIT	FIL FEE REC'D	ATTORNEY DOCKET NO.	DRWGS	TOT CL	IND CL
09/352,404	07/14/99	2731	\$908.00	CUPO-20-2	4	21	3

CHRISTOHER A HUGHES  
MORGAN AND FINNEGAN  
345 PARK AVENUE  
NEW YORK, NY 10154

\$798

Receipt is acknowledged of this nonprovisional Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Customer Service Center. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts of Application" ("Missing Parts Notice") in this application, please submit any corrections to this Filing Receipt with your reply to the "Missing Parts Notice." When the PTO processes the reply to the "Missing Parts Notice," the PTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).

Applicant(s) ROBERT LOUIS CUPO, EATONTOWN, NJ; MUHAMMAD R. KARIM,  
WAYSIDE, NJ.

IF REQUIRED, FOREIGN FILING LICENSE GRANTED 08/13/99

TITLE

IN-BAND-ON-CHANNEL (IBOC) SYSTEM AND METHODS OF OPERATION USING  
ORTHOGONAL FREQUENCY DIVISION MULTIPLEXING (OFDM) WITH TIMING AND  
FREQUENCY OFFSET CORRECTION

PRELIMINARY CLASS: 370

DIVISION

CASE 3037-4167 ATTY JCR

INFORMATION DISCLOSURE STATEMENT

FOREIGN FILING

CONVENTION DATE EXPIRES

RECEIVED  
NOV - 3 1999  
TC 2700 MAIL ROOM

DATA ENTRY BY: GARNETT, SANDRA

TEAM: 06 DATE: 09/02/99

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

**MORGAN & FINNEGAN, L.L.P.**

Attorneys at Law

1775 EYE Street, N. W., Suite 400

Washington, D.C. 20006

Telephone: (202) 857-7887

Facsimile: (202) 857-7929

**FACSIMILE COVER SHEET**

October 4, 1999

TO FAX NO.: 1-(703) 308-7751

PAGES : 3 (including this cover sheet)

TO : Monica Young -- 1-703-308-1202  
Initial Patent Examination Division

FROM : Joseph C. Redmond, Jr.

OUR REF. NO : Cupo 20-2 (3037-4167)Your Ref: Serial No. 09/352,404**COMMENTS:**

Per your discussion with my secretary on Friday re this application and the issuance of a Notice to File Missing Parts in error since our executed Declaration was submitted at the time of filing on 7/14/99, please arrange to refund the \$130 fee to Lucent Technologies, Inc. Deposit Account 12-2325.

Thank you.

Joe Redmond

THE DOCUMENT(S) ACCOMPANYING THIS FACSIMILE TRANSMISSION CONTAINS INFORMATION FROM THE LAW FIRM OF MORGAN & FINNEGAN WHICH IS CONFIDENTIAL AND/OR LEGALLY PRIVILEGED. THE INFORMATION IS INTENDED ONLY FOR THE USE OF THE INDIVIDUAL OR ENTITY NAMED ON THIS TRANSMISSION SHEET. IF YOU ARE NOT THE INTENDED RECIPIENT, YOU ARE HEREBY NOTIFIED THAT ANY DISCLOSURE, COPYING, DISTRIBUTION OR THE TAKING OF ANY ACTION IN RELIANCE ON THE CONTENTS OF THIS FAXED INFORMATION IS STRICTLY PROHIBITED, AND THE DOCUMENT(S) SHOULD BE RETURNED TO THIS FIRM IMMEDIATELY. IF YOU HAVE RECEIVED THIS FACSIMILE IN ERROR, PLEASE NOTIFY US BY TELEPHONE IMMEDIATELY SO THAT WE CAN ARRANGE FOR THE RETURN OF THE ORIGINAL DOCUMENTS AT NO COST TO YOU.

If this transmission is not received clearly or in full, contact us at any of the following numbers:

TELEPHONE NUMBER: (202) 857-7887

FACSIMILE NUMBER: (202) 857-7929

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OCT - 5 1999  
TC 2100 MAIL ROOM